

REMARKS

The present application has been carefully studied and amended in view of the outstanding Office Action dated April 3, 2008, and reconsideration of that Action is requested in view of the following comments.

A petition for a three-month extension of time accompanies this response together with the appropriate fee. Accordingly, the deadline for responding to the Office Action has been extended until October 3, 2008, and this response is therefore timely.

Claims 16-19 have been canceled and the issues regarding those claims is therefore rendered moot.

Claim 2 has been canceled and the limitation of that claim is now included in claim 1.

Claim 1 and dependent claims 3-15 remain.

Applicant respectfully submits that claims 1 and 3-15 define a particular molding which is neither shown nor suggested by the prior art taken alone or in combination with one another. Specifically these claims are not rendered obvious by the combination of Haack et al US 2001/0036559 A1 ("Haack") in view of Goldbach et al EP 0 370 342 A2 ("Goldbach") and Celanese GB 1,104,467, for the following reasons.

The objective of the present invention is to provide moldings with differences in the thickness of its wall, wherein the moldings have an increased mechanical resistance, particularly an increased resistance to stress cracking after chemical treatment. It should be noted that stress cracking usually happens along a wall of a polyacetal molding where different thicknesses occur.

As specifically recited in claim 1, increased resistance to stress cracking in polyacetal moldings is achieved if the moldings have a microcellular structure with a cell size in the range from 1 to 100 μm .

By way of example, a polyacetal molding according to example 1 with a microcellular structure has an improved mechanical stability compared to a corresponding polyacetal molding without microcells according to comparative example 1. The mechanical stability is supported by a slightly improved screw-insertation torque of 2.7 Nm, an overtorque of 8.7 Nm and a strength of 338 Mpa compared to 2.4 Nm / 7.5 Nm / 336 Mpa of the molding of comparative example 1. However, after chemical treatment of the polyacetal molding (see example 2 and comparative example 2) the tendency of stress cracking of a polyacetal molding according to claim 1 is clearly reduced compared to the polyacetal molding without a microcellular structure.

Turning now to the applied prior art, Haack describes fibre-reinforced thermoplastic compositions wherein the stiffness and strength can be increased by cross-ribbing structures (see paragraph 0001-0002). No polyacetal moldings with microcellular structures are described or suggested by Haack. Furthermore, Haack teaches away from the present invention in that it is suggested to use fibre-reinforced compositions and to insert cross-ribbing structures to improve stiffness and strength (see particularly paragraph 0011-0012). Haack is silent about the problem of stress cracking of cross-ribbed polyacetal moldings and consequently no suggestion for a solution of this problem is found in the Haack reference.

Goldbach on the other hand suggests improving strength and rigidity of a molding by using reinforcing ribs (col. 1, line 29-36). Goldbach fails to disclose or suggest polyacetal moldings with a microcellular structure. Additionally, the problem of stress cracking of moldings is not addressed by Goldbach, and there is no suggestion in Goldbach that stress cracking can be reduced if microcellular polyacetal moldings are utilized. Quite the contrary Goldbach suggests increasing the stiffness and rigidity of a molding by using reinforcing ribs which are connected to the shell at discrete connecting points (see col. 1, line 32-36).

The Celanese reference describes a method for the preparation of closed cell polyoxymethylene foams useful as heat and sound insulation materials or light-weight seats etc. (see e.g. page 1, right col., line 65-71, page 3, right col., line 66-73). Celanese is silent about the problem of stress cracking on moldings with wall thickness differences.

In summary, the combination of prior art applied in rejecting the claims fails to suggest the molding of claims 1 and 3-15 for the reasons discussed above, and instead these claims are directed to patentable subject matter.

Respectfully submitted,

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